CHAPTER VI

CJIS IMPLEMENTATION PLAN AND BUDGET

CHAPTER VI: CJIS IMPLEMENTATION PLAN AND BUDGET

In this chapter, we present the detailed Implementation Plan and Budget for the development of the New Hampshire CJIS. The information presented in this chapter is based on a detailed analysis and estimate of the tasks and resource requirements involved in designing and implementing each of the major system modules identified in Chapter III.

The estimates of personnel requirements are general estimates based on the functional requirements analysis. In addition, we compared the estimates to those of similar state projects and have found the estimates to be generally consistent with these other projects. We also reviewed the estimates with New Hampshire criminal justice management and technical staff.

A. GENERAL APPROACH

The general approach to designing and implementing the CJIS system will involve two major steps:

o   the development of an overall system design encompassing the entire CJIS system, and

o   the phased design and implementation of individual modules.

The rationale for this approach is that it will allow the most important modules to be properly designed and implemented on a priority basis without waiting for an elaborate detailed system design for the CJIS system as a whole. If excessive time and resources are spent on programming the entire CJIS system, there is a risk that New Hampshire will not see short-term benefits from the implementation of the most important modules.

Priority will be given to those modules that will directly enhance the integrity of the criminal records system in New Hampshire. Under the phased approach to designing and implementing the CJIS system, therefore, the modules will be implemented in the following priority order:

o   Priority 1: the Arrest and Criminal Incidents Module;

o   Priority 2: the Dispositions and Sentencing Module;

o   Priority 3: the Incarcerations, Probation, and Parole Module;

o   Priority 4: the Bench Warrant and Restraining Order Module;

o   Priority 5: the Prosecutions and Case Scheduling Module; and

o   Priority 6: the Pre-Sentence Investigation Module.

The rest of this chapter is organized into the following sections:

o   Section B presents our approach to the overall design of the CJIS system, including the major tasks, schedule, and personnel requirements. These personnel requirements are described in terms of the following major categories:

.   Project Manager,

.   Systems Analysts,

.   Programmers,

.   System Testers, and

.   Trainers.

o   Section C presents the approach to implementing each of the six major modules, providing information on tasks, schedules, and person-months required for the detailed design and implementation of each module.

o   Section D presents a summary of the proposed schedule and personnel requirements for the implementation of the different CJIS modules, and an estimated budget for personnel.

o   Section E presents an analysis of the hardware requirements and costs for implementing the CJIS. This section identifies the hardware requirements in terms of such items as PCs, lines, modems, routers, bridges, adaptors, emulation boards, upgrades, and so on.

o   Section F presents an overall budget estimate for the design and development of the New Hampshire CJIS, covering both personnel and hardware costs.

o   Section G provides estimates of the costs of ongoing CJIS operations.

B. OVERALL DESIGN OF THE CJIS

This task will involve developing the Preliminary Design for each of the major system modules, as well as an integrated design for the CJIS system as a whole. This will ensure

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that each module properly fits into the overall CJIS design. It is estimated that a total of four months will be required for the preparation of the overall CJIS design. The major subtasks required to complete the overall design are described below.

TASK 1: IDENTIFY USER GROUPS FOR OBTAINING INPUT INTO THE PRELIMINARY DESIGN

The first step will be to identify members of the Steering Committee, User Groups and Task Forces.

These groups are further discussed in Chapter VII.

TASK 2: IDENTIFY DETAILED FUNCTIONAL REQUIREMENTS AND DATA REQUIREMENTS FOR THE CJIS

In convening the User Groups for each module, the first task will be to identify detailed functional requirements for each module, building on the preliminary analysis presented in Chapter III of this Master Plan. This will include:

o   a detailed analysis of the specific types of data that are to be shared among agencies and the courts, and

o   more detailed specifications relating to data transmission schedules and mechanisms.

TASK 3: PREPARE THE PRELIMINARY DESIGN AND DISTRIBUTE TO THE USER GROUPS FOR REVIEW

After the initial sessions with the User Groups have been completed, a draft version of the Preliminary Design will be prepared and circulated to each member of the User Groups. The groups will then be reconvened to obtain their input into the draft version before it is issued in final form.

The estimated personnel requirements for the development of the overall CJIS design are as follows:

o   one Project Manager half-time: two person-months, and

o   three Systems Analysts full-time: 12 person-months.

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C. DESIGN AND IMPLEMENTATION OF THE CJIS MODULES

This section presents the task plan, schedule, and estimated person-months for designing and implementing each of the major CJIS modules. For each module, we present a Gantt Chart showing the elapsed time and personnel requirements for each of the following generic tasks:

o preparation of the detailed design and software specifications,

o software programming,

o unit testing of the software,

o string testing of the software,

o user testing,

o user training,

o pilot testing of the module, and

o statewide implementation.

In describing the approach to the first module -- Arrests and Criminal Incidents -- we present brief descriptions of the activities involved in these generic tasks. For the remaining modules, we simply present a Gantt Chart describing the timetable, and a matrix of personnel resources required.

1. ARRESTS AND CRIMINAL INCIDENTS MODULE

The tasks and schedule for designing and implementing the Arrests and Criminal Incidents Module of the CJIS are shown in Exhibit VI-1. Exhibit VI-2 shows the personnel requirements for completing each task, by staffing category, and presents a summary of the total personnel requirements for designing and implementing the overall module, also by staffing category. The specific tasks are described below.

TASK 1: PREPARATION OF THE DETAILED DESIGN AND PROGRAMMING SPECIFICATIONS

After the Preliminary Design has been completed, work will begin immediately on the Detailed Design for the Arrests and Criminal Incidents Module. The Detailed Design will

Exhibit VI-1
SCHEDULE FOR DESIGNING AND IMPLEMENTING
THE ARRESTS AND CRIMINAL INCIDENTS MODULE

TASKS	DEVELOPMENT TIMETABLE (MONTHS)																							
	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28
DETAIL DESIGN AND PROGRAMMING SPECS	▓	▓	▓																					
PROGRAMMING				▓	▓	▓	▓																	
UNIT TEST								▓																
STRING TEST									▓															
USER TEST										▓														
TRAINING (PILOT; STATEWIDE)											▓			▓										
PILOT SITE IMPLEMENTATION												▓												
FULL IMPLEMENTATION																▓	▓							

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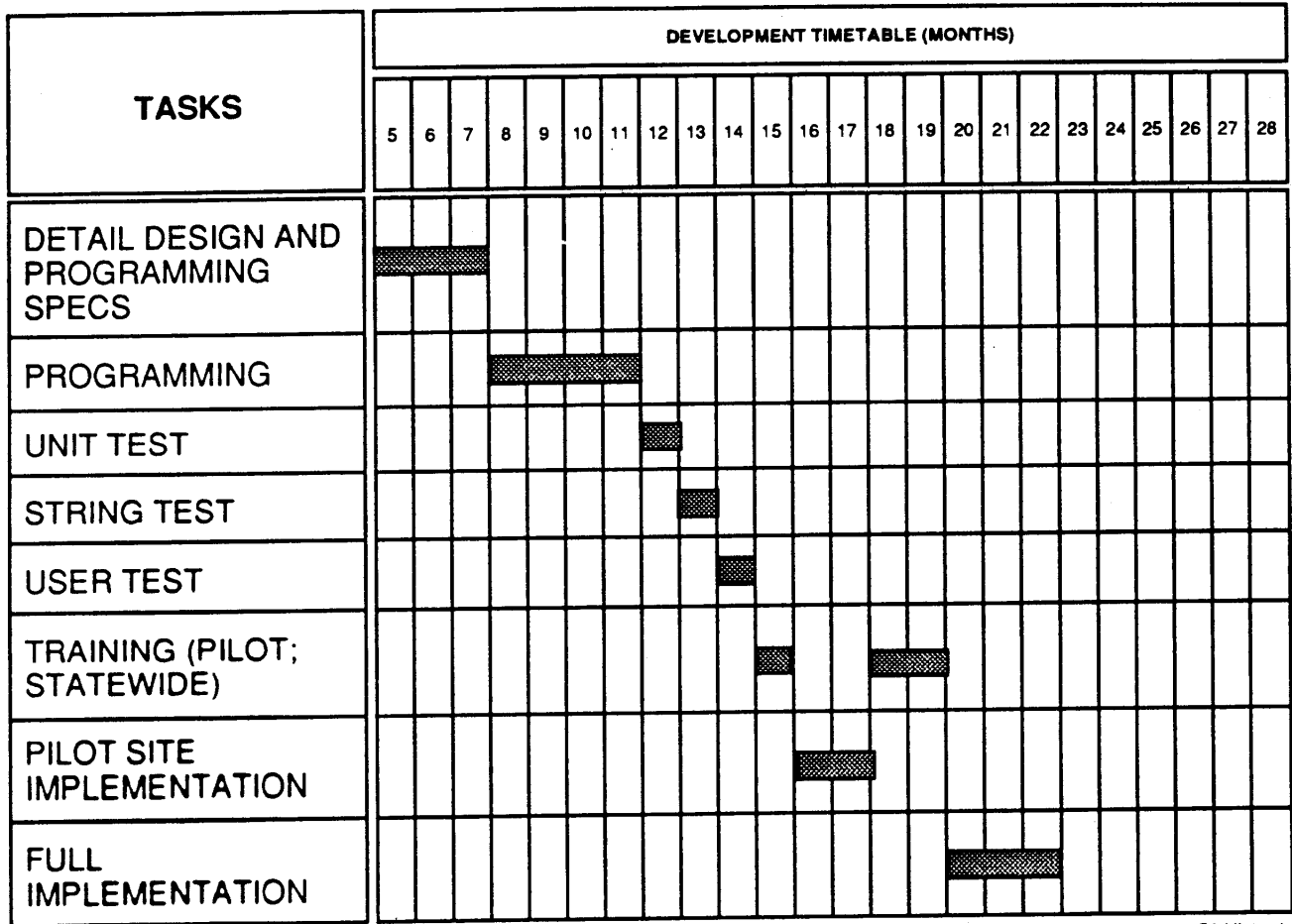
Exhibit VI-2
RESOURCE REQUIREMENTS FOR THE ARREST AND CRIMINAL INCIDENTS MODULE (PERSON - MONTHS)

TASKS	PROJECT MANAGER	SYSTEMS ANALYSTS	CENTRAL REPOSITORY AND LAW ENFORCEMENT		COURTS		PROSECUTORS/ PUBLIC DEFENDERS		CORRECTIONS	
			PRO-GRAMMERS	TESTERS/ TRAINERS	PRO-GRAMMARS	TESTERS/ TRAINERS	PRO-GRAMMERS	TESTERS/ TRAINERS	PRO-GRAMMERS	TESTERS/ TRAINERS
DETAIL DESIGN	1.5	6.0								
PROGRAMMING			8.0		1.0		0.25			
UNIT TEST			2.0		0.25					
STRING TEST		1.0	1.0		0.25					
USER TEST		2.0	2.0	2.0	0.25					
USER TRAINING	0.5			6.0		5.0				
PILOT TEST	0.5		1.0	4.0	0.25	0.25				
STATEWIDE IMPLEMENTATION	0.75		1.5	6.0	0.5	2.0				
TOTAL	3.25	9.0	15.5	18.0	2.5	6.25	0.25			

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identify the specific sub-modules and individual programs that will comprise the module. The Detailed Design will include specific data element specifications, screen formats, data flow diagrams, data exchange diagrams, system tables, real-time v. batch specifications for data transmittals, and system security and back-up procedures. In the process of preparing the Detailed Design for the module, the Project Manager and Systems will interact frequently with members of the User Group to ensure that the design specifications are consistent with New Hampshire's requirements for the module.

After the completion of the Detailed System Design, the Project Manager and Systems Analysts will begin to develop the programming specifications for the module. These specifications will be designed for use in developing the system code and system tables necessary to develop each of the programs identified in the Detailed Design. After developing the written programming specifications, the Project Manager and Systems Analysts will interface with the system programmers to review the specifications.

This task will begin in Project Month 5. It is estimated that a total of three months will be required for this task. The estimated personnel requirements are as follows:

o   Project Manager: 1.5 person-months, and

o   Systems Analysts: six person-months.

TASK 2: SOFTWARE PROGRAMMING

The programmers will be responsible for producing the actual code for each system program. This task will begin in Project Month 8. It is estimated that a total of four months will be required for this task. The estimated personnel requirements are as follows:

o   Programmers: 9.25 person-months.

TASK 3: UNIT TESTING OF THE SOFTWARE

This task will involve conducting tests on each of the individual programs in the module. The Project Manager and Systems Analysts will be responsible for providing test specifications and for monitoring the testing procedures. The actual tests will be run by the

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system programmers. The Systems Analysts will identify any fixes that need to be made to the software and will ensure that the programmers make the necessary changes.

This task will begin in Project Month 12. It is estimated that one month will be required for this task. The estimated personnel requirements are as follows:

o   Programmers: 2.25 person-months.

TASK 4: STRING TESTING OF THE SOFTWARE

This task will involve testing groups of individual system programs that comprise the module to ensure that they work correctly in combination. The Project Manager and Systems Analysts will select groups of programs that are inter-dependent using test data. The objective of the string testing is to ensure that the interfaces among the programs are working correctly, as reflected in data synchronization requirements and other data dependencies among the programs. The specifications for the string testing will be developed by the Project Manager and Systems Analysts and will be conducted by the programmers.

This task will begin in Project Month 13. It is estimated that a total of one month will be required for this task. The estimated personnel requirements are as follows:

o   Systems Analysts: one person-month, and

o   Programmers: 1.25 person-months.

TASK 5: USER TESTING

During the user testing task, the focus will be on testing the overall module, including all of the individual programs that comprise the system. The goal of the User Testing will be to determine how well the software for the overall system performs under specific testing conditions. The Project Manager and Systems Analysts will be responsible for specifying the testing protocols and for monitoring the tests.

This task will begin in Project Month 14. It is estimated that a total of one month will be required for this task. The estimated personnel requirements are as follows:

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o Systems Analysts: two person-months,

o Testers: two person-months, and

o Programmers: 2.25 person-months.

TASK 6: USER TRAINING

User training will be conducted during Month 15 at the Central Repository and in the county selected as the pilot site (see below). The user training will cover all aspects of the new module, including system functions, instructions for accessing the system, screen formats, data element definitions, security procedures, print functions, system reports, and system interfaces. Training sessions will be conducted at each of the agencies participating in the pilot test.

In addition to conducting training for the pilot test, training must be provided statewide in conjunction with full implementation of the new system. This will require organizing and conducting local or regional training sessions encompassing all of the local agencies that will be using the new system.

To support the user training, it will be necessary to develop user manuals, training materials, and training formats. This will include training curricula, hand-outs, and audio-visual materials.

This task will begin in Project Month 18. It is estimated that a total of two months will be required for this task. The estimated personnel requirements are as follows:

o Project Manager: 0.5 person-months, and

o Testers/Trainers: 11.0 person-months.

TASK 7: PILOT TESTING OF THE NEW SYSTEM

The pilot test of the module will be conducted in a single county in New Hampshire. To be considered for the pilot test, the county must be a large population center with a significant number of annual arrests and dispositions. The Central Repository and the courts will also participate in the pilot test.

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The pilot test will require the installation of any hardware required to support the CJIS in the pilot site. As discussed later in this chapter, however, the new hardware would consist primarily an automated booking stations at the local police department and the county jail. During the course of the pilot test, the Systems Analysts will analyze the performance of the module and utilize the programmers to make any changes required in the system software.

This task will begin in Project Month 16. It is estimated that a total of two months will be required for this task. The estimated personnel requirements are as follows:

o   Project Manager: 0.5 person-months,

o   Programmers: 1.25 person-months, and

o   Testers/Trainers: 4.25 person-months.

TASK 8: STATEWIDE IMPLEMENTATION

The statewide implementation of the module will involve the installation of the system software and any necessary hardware at all participating agencies. The statewide implementation of the system will be dependent on the development and operation of New Hampshire's backbone telecommunications system, which is expected to be operational in mid-1996.

This task will begin in Project Month 20. It is estimated that a total of three months will be required for this task. The estimated personnel requirements are as follows:

o   Project Manager: 0.75 person-months,

o   Programmers: 2.0 person-months.

o   Testers/Trainers: 8.0 person-months

2. DISPOSITIONS AND SENTENCES MODULE

The tasks and schedule for designing and implementing the Dispositions and Sentences Module of the CJIS are shown in Exhibit VI-3. Exhibit VI-4 shows the personnel requirements for completing each task, by staffing category, and presents a summary of the

total personnel requirements for designing and implementing the overall module, also by staffing category.

In brief, the work will begin on the Dispositions and Sentencing Module in Month 8. Pilot site implementation will begin in Month 19. The module will be fully implemented by Month 25.

The personnel requirements are as follows:

o   Project Manager: 3.25 person-months,

o   Systems Analysts: 4.0 person-months,

o   Programmers: 16.0 person-months, and

o   Testers/Trainers: 16.75 person-months.

3. INCARCERATIONS, PROBATION, AND PAROLE MODULE

The tasks and schedule for designing and implementing the Incarcerations, Probation, and Parole Module of the CJIS are shown in Exhibit VI-5. Exhibit VI-6 shows the personnel requirements for completing each task, by staffing category, and presents a summary of the total personnel requirements for designing and implementing the overall module, also by staffing category.

In brief, the work will begin on the Incarcerations, Probation, and Parole Module in Month 11. Pilot site implementation will begin in Month 21. The module will be fully implemented by Month 27.

The personnel requirements are as follows:

o   Project Manager: 2.75 person-months,

o   Systems Analysts: 2.0 person-months,

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Exhibit VI-3
SCHEDULE FOR DESIGNING AND IMPLEMENTING
THE DISPOSITIONS AND SENTENCES MODULE

TASKS	DEVELOPMENT TIMETABLE (MONTHS)																	
	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
DETAIL DESIGN AND PROGRAMMING SPECS	█	█	█															
PROGRAMMING				█	█	█	█											
UNIT TEST								█										
STRING TEST									█									
USER TEST										█								
TRAINING (PILOT; STATEWIDE)												█			█	█		
PILOT SITE IMPLEMENTATION													█	█				
FULL IMPLEMENTATION																█	█	█

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Exhibit VI-4
RESOURCE REQUIREMENTS FOR THE DISPOSITIONS AND SENTENCES MODULE (PERSON - MONTHS)

TASKS	PROJECT MANAGER	SYSTEMS ANALYSTS	CENTRAL REPOSITORY AND LAW ENFORCEMENT PRO-GRAMMERS	TESTERS/ TRAINERS	COURTS PRO-GRAMMARS	TESTERS/ TRAINERS	PROSECUTORS/ PUBLIC DEFENDERS PRO-GRAMMERS	TESTERS/ TRAINERS	CORRECTIONS PRO-GRAMMERS	TESTERS/ TRAINERS
DETAIL DESIGN	1.5	2.0								
PROGRAMMING			2.0		1.0		0.25		4.0	
UNIT TEST			1.0		0.25				0.25	
STRING TEST		1.0	1.0		0.25				0.25	
USER TEST		1.0	1.0	1.0	0.5	0.25			0.25	0.25
USER TRAINING	0.5			1.0		2.5				4.0
PILOT TEST	0.5		1.0	1.25	0.25	0.25				1.0
STATEWIDE IMPLEMENTATION	0.75		1.5	1.25	0.25	1.0			1.0	3.0
TOTAL	3.25	4.0	7.5	4.5	2.5	4.0	0.25		5.75	8.25

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Exhibit VI-5
PERSON-MONTHS AND SCHEDULE
FOR DESIGNING AND IMPLEMENTING THE
INCARCERATIONS, PROBATION AND PAROLE MODULE

TASKS	DEVELOPMENT TIMETABLE (MONTHS)																
	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27
DETAIL DESIGN AND PROGRAMMING SPECS	▓	▓	▓														
PROGRAMMING				▓	▓	▓											
UNIT TEST							▓										
STRING TEST								▓									
USER TEST									▓								
TRAINING (PILOT; STATEWIDE)										▓			▓	▓			
PILOT SITE IMPLEMENTATION											▓	▓					
FULL IMPLEMENTATION															▓	▓	

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Exhibit VI-6
RESOURCE REQUIREMENTS FOR THE INCARCERATION/ PROBATION/ PAROLE MODULE (PERSON - MONTHS)

TASKS	PROJECT MANAGER	SYSTEMS ANALYSTS	CENTRAL REPOSITORY AND LAW ENFORCEMENT		COURTS		PROSECUTORS/ PUBLIC DEFENDERS		CORRECTIONS	
			PRO-GRAMMERS	TESTERS/ TRAINERS	PRO-GRAMMARS	TESTERS/ TRAINERS	PRO-GRAMMERS	TESTERS/ TRAINERS	PRO-GRAMMERS	TESTERS/ TRAINERS
DETAIL DESIGN	0.75	1.0								
PROGRAMMING			1.0		1.0		0.25		5.0	
UNIT TEST			1.0		0.25				1.0	
STRING TEST			1.0		0.25				1.0	
USER TEST		1.0	1.0	1.0	0.25	0.25			1.0	1.0
USER TRAINING	0.75			4.0		1.0				3.0
PILOT TEST	0.5		0.5	1.0		1.0				1.0
STATEWIDE IMPLEMENTATION	0.75		0.5	3.0		2.0			1.0	3.0
TOTAL	2.75	2.0	5.0	9.0	1.75	4.25	0.25		9.0	8.0

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o   Programmers: 16.0 person-months, and

o   Testers/Trainers: 21.25 person-months.

4. BENCH WARRANT AND RESTRAINING ORDER MODULE

The tasks and schedule for designing and implementing the Bench Warrant and Restraining Order Module of the CJIS are shown in Exhibit VI-7. Exhibit VI-8 shows the personnel requirements for completing each task, by staffing category, and presents a summary of the total personnel requirements for designing and implementing the overall module, also by staffing category.

In brief, the work will begin on the Bench Warrant and Restraining Order Module in Month 11. Pilot site implementation will begin in Month 21. The module will be fully implemented by Month 27.

The personnel requirements are as follows:

o   Project Manager: 2.0 person-months,

o   Systems Analysts: 3.0 person-months,

o   Programmers: 8.75 person-months, and

o   Testers/Trainers: 12.0 person-months.

5. PROSECUTIONS, CASE SCHEDULING, AND COURT HEARING MODULE

The tasks and schedule for designing and implementing the Prosecutions and Court Scheduling Module of the CJIS are shown in Exhibit VI-9. Exhibit VI-10 shows the personnel requirements for completing each task, by staffing category, and presents a summary of the total personnel requirements for designing and implementing the overall module, also by staffing category.

In brief, the work will begin on the Prosecutions, Case Scheduling, and Court Hearing Module in Month 16. Pilot site implementation will begin in Month 26. The module will be fully implemented by Month 32.

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Exhibit VI-7
SCHEDULE FOR DESIGNING AND IMPLEMENTING THE BENCH WARRANT AND RESTRAINING ORDER MODULE

TASKS	DEVELOPMENT TIMETABLE (MONTHS)															
	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29
DETAIL DESIGN AND PROGRAMMING SPECS	▓	▓														
PROGRAMMING			▓	▓	▓											
UNIT TEST						▓										
STRING TEST							▓									
USER TEST								▓								
TRAINING (PILOT; STATEWIDE)									▓			▓	▓			
PILOT SITE IMPLEMENTATION											▓					
FULL IMPLEMENTATION														▓	▓	▓

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Exhibit VI-8
RESOURCE REQUIREMENTS FOR THE BENCH WARRANT/
RESTRAINING ORDER MODULE (PERSON - MONTHS)

TASKS	PROJECT MANAGER	SYSTEMS ANALYSTS	CENTRAL REPOSITORY AND LAW ENFORCEMENT		COURTS		PROSECUTORS/ PUBLIC DEFENDERS		CORRECTIONS	
			PRO-GRAMMERS	TESTERS/ TRAINERS	PRO-GRAMMARS	TESTERS/ TRAINERS	PRO-GRAMMERS	TESTERS/ TRAINERS	PRO-GRAMMERS	TESTERS/ TRAINERS
DETAIL DESIGN	0.5	1.0								
PROGRAMMING			1.0		2.0					
UNIT TEST		0.5	0.5		0.5					
STRING TEST		0.5	0.5		0.5					
USER TEST		1.0	1.0		0.5	1.0				
USER TRAINING	0.75			4.0						
PILOT TEST	0.5		0.5	1.0	0.25	1.0				
STATEWIDE IMPLEMENTATION	0.75		1.0	2.0	0.5	2.0				
TOTAL	2.5	3.0	4.5	7.0	4.25	4.0				

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Exhibit VI-9
SCHEDULE FOR DESIGNING AND IMPLEMENTING THE
PROSECUTIONS, CASE SCHEDULING AND COURT HEARING MODULE

TASKS	DEVELOPMENT TIMETABLE (MONTHS)																
	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
DETAIL DESIGN AND PROGRAMMING SPECS	▓	▓	▓														
PROGRAMMING				▓	▓	▓											
UNIT TEST							▓										
STRING TEST								▓									
USER TEST									▓								
TRAINING (PILOT; STATEWIDE)										▓			▓	▓			
PILOT SITE IMPLEMENTATION											▓	▓					
FULL IMPLEMENTATION															▓	▓	▓

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Exhibit VI-10
RESOURCE REQUIREMENTS FOR THE PROSECUTIONS/ CASE SCHEDULING/ COURT HEARING MODULE (PERSON - MONTHS)

TASKS	PROJECT MANAGER	SYSTEMS ANALYSTS	CENTRAL REPOSITORY AND LAW ENFORCEMENT		COURTS		PROSECUTORS/ PUBLIC DEFENDERS		CORRECTIONS	
			PRO-GRAMMERS	TESTERS/ TRAINERS	PRO-GRAMMARS	TESTERS/ TRAINERS	PRO-GRAMMERS	TESTERS/ TRAINERS	PRO-GRAMMERS	TESTERS/ TRAINERS
DETAIL DESIGN	0.75	1.0								
PROGRAMMING			1.0		1.5		4.0			
UNIT TEST			0.5		0.25		1.0			
STRING TEST		1.0	0.5		0.25		1.0			
USER TEST		1.0	0.5	1.0	0.25	0.25	1.0	1.0		
USER TRAINING	0.75			3.0		4.0		3.0		
PILOT TEST	0.5			0.5		0.5		1.0		
STATEWIDE IMPLEMENTATION	0.75		1.0	2.0	0.5	1.0	1.0	1.0		
TOTAL	2.75	3.0	3.5	6.5	2.75	5.75	8.0	6.0		

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The personnel requirements are as follows:

o   Project Manager: 2.75 person-months,

o   Systems Analysts: 3.0 person-months,

o   Programmers: 14.25 person-months, and

o   Testers/Trainers: 18.25 person-months.

6. PRE-SENTENCE INVESTIGATIONS MODULE

The tasks and schedule for designing and implementing the Pre-Sentence Investigation Module of the CJIS are shown in Exhibit VI-11. Exhibit VI-12 shows the personnel requirements for completing each task, by staffing category, and presents a summary of the total personnel requirements for designing and implementing the overall module, also by staffing category.

In brief, the work will begin on the Pre-Sentence Investigation Module in Month 19. Pilot site implementation will begin in Month 28. The module will be fully implemented by Month 34.

The personnel requirements are as follows:

o   Project Manager: 0.75 person-months,

o   Systems Analysts: 1.0 person-months,

o   Programmers: 10.25 person-months, and

o   Testers/Trainers: 11.0 person-months.

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Exhibit VI-11
SCHEDULE FOR DESIGNING AND IMPLEMENTING
THE PRE-SENTENCE INVESTIGATION MODULE

TASKS	DEVELOPMENT TIMETABLE (MONTHS)															
	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34
DETAIL DESIGN AND PROGRAMMING SPECS	▓	▓														
PROGRAMMING			▓	▓	▓											
UNIT TEST						▓										
STRING TEST							▓									
USER TEST								▓								
TRAINING (PILOT; STATEWIDE)										▓			▓	▓		
PILOT SITE IMPLEMENTATION										▓	▓					
FULL IMPLEMENTATION														▓	▓	

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Exhibit VI-12
RESOURCE REQUIREMENTS FOR THE PRE-SENTENCE
INVESTIGATION MODULE (PERSON - MONTHS)

TASKS	PROJECT MANAGER	SYSTEMS ANALYSTS	CENTRAL REPOSITORY AND LAW ENFORCEMENT		COURTS		PROSECUTORS/ PUBLIC DEFENDERS		CORRECTIONS	
			PRO-GRAMMERS	TESTERS/ TRAINERS	PRO-GRAMMARS	TESTERS/ TRAINERS	PRO-GRAMMERS	TESTERS/ TRAINERS	PRO-GRAMMERS	TESTERS/ TRAINERS
DETAIL DESIGN	0.75	1.0								
PROGRAMMING			0.5		1.0		0.25		4.0	
UNIT TEST			0.25		0.25				1.0	
STRING TEST			0.25		0.25				1.0	
USER TEST			0.25		0.25	0.25			1.0	1.0
USER TRAINING	0.5					2.5				3.0
PILOT TEST	0.5					0.25				1.0
STATEWIDE IMPLEMENTATION	0.75					1.0				2.0
TOTAL	2.5	1.0	1.25		1.75	4.0	0.25		7.0	7.0

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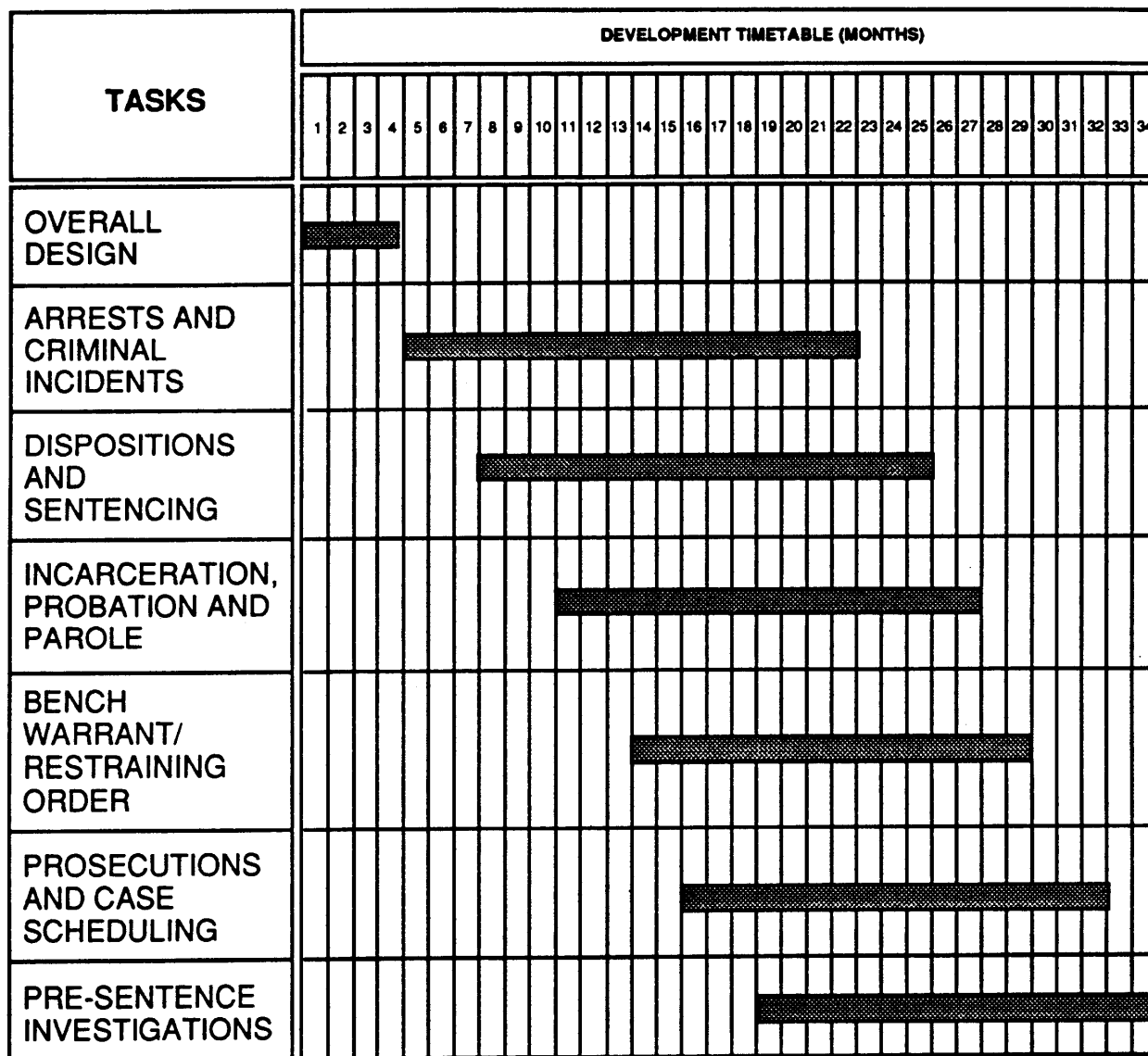## D. SUMMARY OF THE OVERALL SCHEDULE, PERSONNEL REQUIREMENTS AND PERSONNEL COSTS FOR IMPLEMENTING THE CJIS SYSTEM

Exhibit VI-13 presents an overall Gantt Chart summarizing the overall schedule for designing and implementing the CJIS system, including the proposed schedule for each of the modules. Exhibit VI-14 provides the overall personnel requirements for implementing the CJIS, including the overall design and the six modules. As indicated, the projected personnel costs for the entire CJIS system are $4,934,367. However, this cost could be reduced to about $3,157,700 if the testing and training were conducted by in-house staff. The cost could be reduced further if some of the programming could be done by in-house personnel.

E. HARDWARE REQUIREMENTS AND COSTS FOR THE NEW HAMPSHIRE CJIS

The hardware requirements for the CJIS system will be relatively minor for four reasons:

o   The CJIS will be able to take advantage of the new telecommunications backbone system that New Hampshire is planning to implement in mid-1996.

o   As indicated in Chapter IV, the CJIS will make use of existing hardware as much as possible.

o   New Hampshire officials wish to focus the system on the agencies that account for the largest percentage of criminal cases, rather than incorporating every single police department in the state.

o   Officials at the Central Repository have indicated that they already have sufficient hardware capacity to support the new processing requirements of the different CJIS modules.

o   Court officials have indicated that their hardware is sufficient to process the new modules, although, at a later time, they may want to consider a single mainframe processor for the courts as a whole.

o   The Department of Corrections has just acquired new computer equipment which should be sufficient to process the proposed modules.

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Exhibit VI-13
OVERALL SCHEDULE FOR THE
DEVELOPMENT OF THE CJIS MODULES

TASKS	DEVELOPMENT TIMETABLE (MONTHS)
	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34
OVERALL DESIGN	▓ (months 1-3)
ARRESTS AND CRIMINAL INCIDENTS	▓ (months 5-22)
DISPOSITIONS AND SENTENCING	▓ (months 9-25)
INCARCERATION, PROBATION AND PAROLE	▓ (months 12-26)
BENCH WARRANT/ RESTRAINING ORDER	▓ (months 15-28)
PROSECUTIONS AND CASE SCHEDULING	▓ (months 17-30)
PRE-SENTENCE INVESTIGATIONS	▓ (months 19-34)

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Exhibit VI-14
ESTIMATED PERSONNEL COSTS

A. PERSON-MONTHS BY STAFF CATEGORY

Project Manager: 19 person-months

Systems Analysts: 33 person-months

Programmers: 83.5 person-months

Testers/Trainers: 102.5 person-months

B. COSTS PER STAFF CATEGORY*

Project Manager ($175/hour): $576,333

Systems Analyst ($135/hour): $772,200

Programmers ($125/hour): $1,809,167

Testers/Trainers ($100/hour): $1,776,667

TOTAL PERSONNEL COSTS: $4,934,367

* The cost estimates are based on a 2,080 hour person-year

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o   Prosecutors and Public Defenders have indicated that their equipment can handle the new modules.

In this context, the primary hardware requirements for the new CJIS system will include the following:

o   automated booking stations to support the Arrests and Criminal Incidents Module;

o   minor hardware acquisitions to improve the capacity of the Central Repository; and

o   hardware to permit the agencies to connect all of their computers, PC's, LANs, booking stations, and other equipment to the state's backbone network.

1. ACQUISITION OF AUTOMATED BOOKING STATIONS

It is estimated that 25 automated booking stations will be required to support the Arrests and Criminal Incidents Module. Each of the 10 county jails will receive a booking station, and the remaining 15 will be deployed at the arresting agencies that account for the large majority of all arrest activity in New Hampshire.

The automated booking stations will permit arrest information to be entered on-line. This will ensure that all the required information is captured. In addition, fingerprints will be scanned into the system automatically.

The estimated cost of the automated booking stations is $875,000.00.

2. MINOR HARDWARE ACQUISITION TO IMPROVE THE CAPACITY OF THE CENTRAL REPOSITORY

Minor hardware purchases will be necessary at the Central Repository in the form of memory cards, controllers, ports, and cabinets. The total estimated cost of this new hardware for both of the BULL computers combined is $101,000. Annual maintenance on the new equipment is estimated at about $6,800.

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3. HARDWARE REQUIRED TO ALLOW THE AGENCIES AND COURTS TO CONNECTS TO THE BACKBONE SYSTEM

It is extremely difficult, if not impossible, to estimate the cost of permitting the agencies and courts to connect their computers, PC's, LANs, booking stations and other equipment to the backbone system. The reason is that the state's backbone system has not been completely designed, nor have any vendors been solicited or selected to provide the hardware or software for the network.

However, in Exhibit VI-15, we have very generally estimated the number and type of hook-ups required and the cost for these devices.

F. OVERALL BUDGET FOR THE DESIGN AND DEVELOPMENT OF THE NEW HAMPSHIRE CJIS

The overall estimated cost for the design and development of the New Hampshire CJIS is as follows:

Personnel costs: $4,934,367

Hardware acquisition: $1,475,300

TOTAL: $6,409,667

G. OPERATIONS COSTS

There are four categories of operations costs which would commence once the various modules are implemented:

o   Personnel

o   Maintenance on equipment purchased

o   Maintenance on connectivity devices

o   Backbone network usage costs

At this time costs are extremely difficult to estimate with any good degree of precision since the modules have not been designed. For example, the network has not even

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Exhibit VI-15
ESTIMATED HARDWARE COSTS FOR CONNECTING
THE AGENCIES AND COURTS TO THE BACKBONE

	Types of Device	Number of Devices	Total Cost	Tail Circuits at $500	Wiring/Cabling at $100	DSU/Modems at $500	Bridges at $2,500	Ethernet Adaptors at $200	Emulation Boards at $500
Courts									
Local District and Superior	LAN	51	$ 193,800	$ 25,500	$ 5,100	$ 25,500	$ 127,500	$ 10,200	
Police and Central Repository									
Booking Stations	PC	25	$ 40,000	$ 12,500	$ 2,500	$ 12,500			$ 12,500
Local Police Departments	PC	120	$ 192,000	$ 60,000	$ 12,000	$ 60,000			$ 60,000
Bull Switch and CHRI	Mainframe*	1	$ 1,100		$ 100				$ 1,000
Corrections									
State Prison Bull DPX20-810	Mainframe*	1			$ 100				
HHS Bull DPX90	Mainframe*	1			$ 100				
Local Parole and Probation	PC	10	$ 16,000	$ 5,000	$ 1,000	$ 5,000			$ 5,000
Central Site	PC	1	$ 1,600	$ 500	$ 100	$ 500			$ 500
Local Detention	PC	10	$ 16,000	$ 5,000	$ 1,000	$ 5,000			$ 5,000
Defenders									
Local Offices	PC	10	$ 16,000	$ 5,000	$ 1,000	$ 5,000			$ 5,000
Prosecutors									
WANG	Mainframe*	1	$ 1,800		$ 100				
County Prosecutors	PC	10	$ 16,000	$ 5,000	$ 1,000	$ 5,000			$ 5,000
City Prosecutors	PC	5	$ 8,000	$ 2,500	$ 500	$ 2,500			$ 2,500
TOTALS		248	$ 499,300	$ 121,000	$ 24,800	$ 121,000	$ 127,500	$ 10,200	$ 96,500

*Upgrades

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been fully designed nor has it been determined how many users or "nodes" will be on the system. Finally, the vendor RFP has not been issued yet.

1. PERSONNEL COSTS

We have estimated that for maintenance purposes only, 1 full time programmer would be required for the police/Central Repository, 1 full time programmer for the courts, and a half-time programmer for the Department of Corrections. No on-going personnel are required for the prosecutors or public defenders.

2 1/2 programmers x $40,000 plus 25% fringe benefits = $125,000/year

2. MAINTENANCE ON EQUIPMENT PURCHASED

The yearly maintenance cost for purchased equipment is listed below:

Item	Maintenance Cost/ Unit	# Units	Total Cost
Booking stations	3,700	25	$92,500
Miscellaneous Central Repository equipment	6,800		$6,800
Total	**10,500**		**$99,300**

3. MAINTENANCE ON CONNECTIVITY DEVICES

Exhibit VI-15 depicted 246 devices of various types required to connect agencies to the state's "backbone" telecommunications network.

The yearly cost of maintaining these devices is minimal because the devices are electronic and rarely fail.

4. "BACKBONE" TELECOMMUNICATIONS NETWORK USAGE COSTS

As previously mentioned, this is the most difficult cost to estimate. Although OITM Management tried to be helpful, because the network RFP has not yet been issued, they were

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unable to project costs. However, in an overall sense, they plan a 20 percent reduction in present networking costs.

Recently, the state police/local police/Central Repository network had 121 devices connected to the system all on leased lines. All devices connected to the network with access to NCIC must be on leased lines; dial up technology is not permitted by the federal government. Telecommunications costs are approximately $70,000 per month or $840,000/per year. A simple extrapolation to a 246 node network all using leased lines results in an expected cost of $1,707,000 per year.

5. TOTAL ANNUAL OPERATIONAL COSTS

Personnel	$125,000.00
Equipment Maintenance	$99,300.00
Maintenance on Connecting Devices	$0.00
Backbone network	$1,707,000.00
Total	**$1,931,300.00**

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